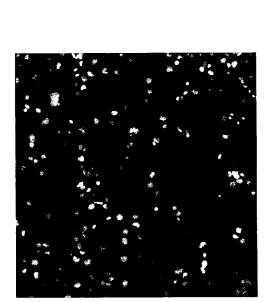
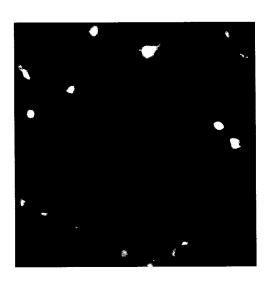
Figure 1

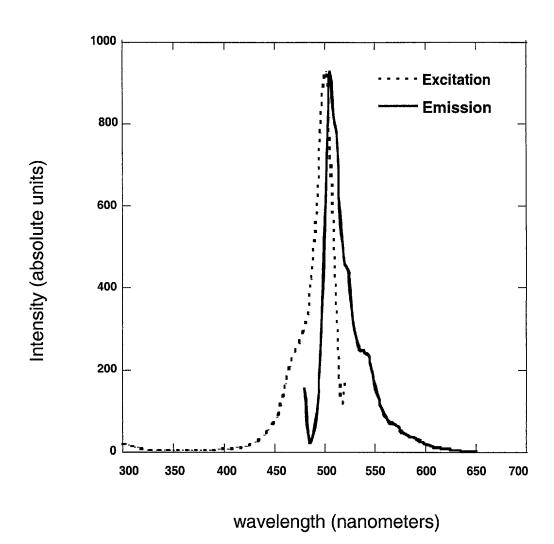


Hoechst 33342 Stain



Green Fluorescent Protein

Figure 2

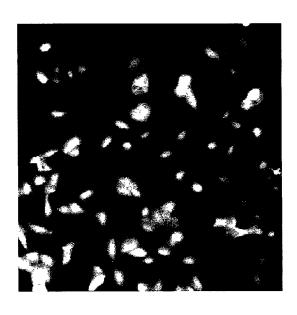


fluorescence intensity

Figure 4



HEK 293 cells



A549 cells

Figure 5

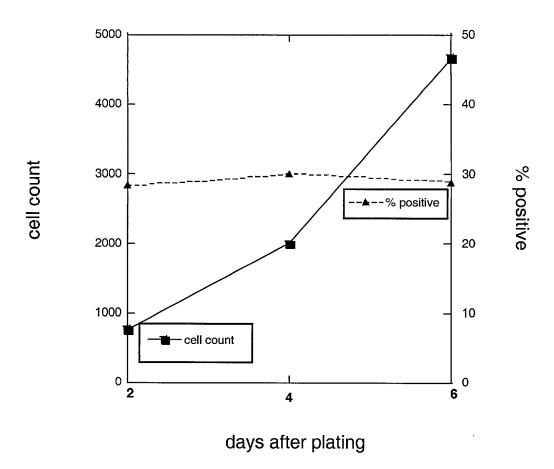


Figure 6

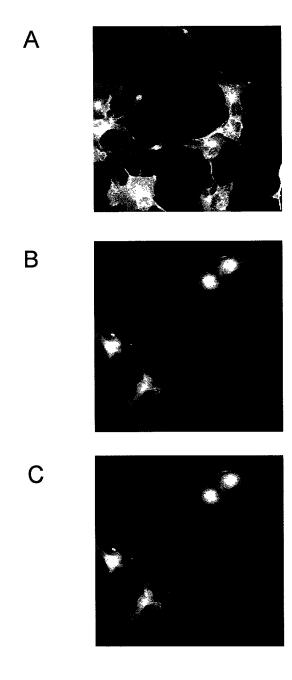


Figure 7

Caspase-3 biosensor

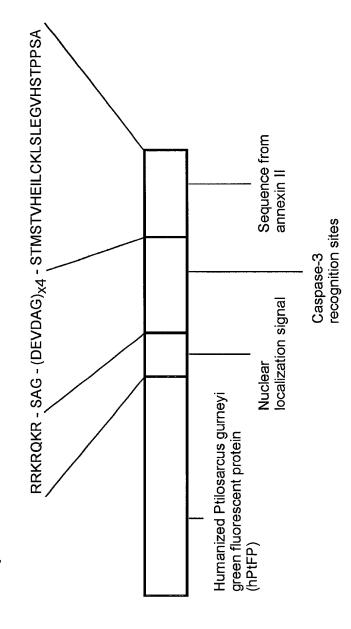
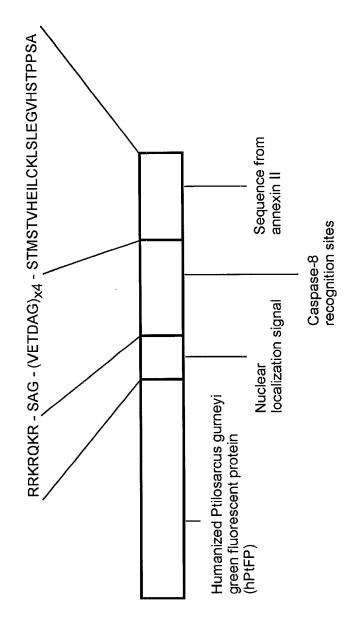


Figure 8

Caspase-8 biosensor



	ŧ		Figure 9																		
			Met							_											
		Met	Val	3	71	7 ~~	7707	T 0	T	7 ~~	mh w	03	T 011	Tara	C111	Tle	Met	Sar	. ב ג	Tira	77-
PtFP	+1 1		ΣTG			Asn AAC															
hPtFP	1	ATG				AAC															
	_		***		*		*	* *			*	*		*		*		***	*	*	*
	+1					Ile															
PtFP	61					ATC															
hPtFP	61	AGC	GIG *	GAG *	GGC *	ATC	GTG	AAC	AAC *	ÇAC	GTG *	TTC *	AGC **	ATG	GAG *	GGC *	*	*	AAG *	GGC	AAC *
			••	••	,				-		*-	-									
	+1	Val	Leu	Phe	Gly	Asn	Gln	Leu	Met	Gln	Ile	Arg	Val	Thr	Lys	Gly	Gly	Pro	Leu	Pro	Phe
PtFP	121					AAC															
hPtFP	121					AAC															
		*	* *	*	*		*	*		*			*	*		*	*	*	*	*	
	_					_			_												
néan		Ala	Phe	Asp	Ile	Val	Ser	Ile	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro
PtFP hPtFP	181 181					GTT GTG															
111 01 1	101	*	110	*	*	*	**	AIC *	*	110	CAG *	TAC	*	AAC *	*	ACC *	TTC	ACC *	AAG *	TAT	*
77.5	+1	Asp	Asp	Ile	Ala	Asp	Tyr	Phe	Val	Gln	Ser	Phe	Pro	Ala	Gly	Phe	Phe	Tyr	Glu	Arg	Asn
PtFP	241	GAC	GAC	ATT	GCG	GAC	TAC	TTT	GTT	CAA	TCA	TTC	CCG	GCT	GGA	TTT	TTC	TAC	GAA	AGA	AAT
hPtFP	241	GAC	GAC			GAC	TAC					TTC					TTC	TAC	GAG	CGG	AAC
4.				*	*			*	*	*	***		*	*	*	*			*	* *	*
	+1	Leu	Ara	Phe	Glu	Asp	Glv	Δla	Tle	Val	Agn	Tla	Δνα	Car	λαn	T3.a	Cor	T.e.u	Gl 13	λαν	n an
PtFP	301					GAT															
hPtFP	301					GAC															
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PtFP.	361	рус	THE	CAC	Tyr	Lys	Val	Glu	Tyr	Arg	GTA	Asn	GLY	Phe	Pro	Ser	Asn	Gly	Pro	Val	Met
hPtFP	361	AAG	TTC	CAC	TAC	AAA AAG	GTG	GAG	TAI	CGC	GGC	AAC	GGT	TTC	CCT	AGT	AAC	CCC	CCC	GTG	ATG
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				-																	
s=k	+1	Gln	Lys	Ala	Ile	Leu	Gly	Met	Glu	Pro	Ser	Phe	Glu	Val	Val	Tyr	Met	Asn	Ser	Gly	Val
PtFP	421	CAA	AAA	GCC	ATC	CTC	GGC	ATG	GAG	CCA	TCG	TTT	GAG	GTG	GTC	TAC	ATG	AAC	AGC	GGC	GTT
hPtFP	421	CAG *	AAG *	GCC	ATC	CTG *	GGC	ATG	GAG				GAG	GTG	GTG	TAC	ATG	AAC	AGC	GGC	GTG
		"	•			•				*	***	*									*
	+1	Leu	Val	Gly	Glu	Val	Asp	Leu	Val	Tvr	Lvs	Leu	Glu	Ser	Glv	Δgn	Tur	Tur	Ser	Cva	Hic
PtFP	481	CTG	GTG	GGC	GAA	GTA	GAT	CTC	GTT	TAC	AAA	CTC	GAG	TCA	GGG	AAC	TAT	TAC	TCG	TGC	CAC
hPtFP	481	CTG	GTG	GGC	GAG	GTG	GAC	CTG	GTG	TAC	AAG	CTG	GAG	AGC	GGC	AAC	TAC	TAC	AGC	TGC	CAC
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D+ 20						Tyr												-		-	
PtFP	541 541					TAC															
hPtFP	541	AIG	HAG	ACC	TIC	IAC	نانان	HGC	HAG	GGC	GGC	GIG	AAG	GAG	TTC	CCT	GAG	IAC	CAC	110	AIC

+1 His His Arg Leu Glu Lys Thr Tyr Val Glu Glu Gly Ser Phe Val Glu Gln His Glu Thr 601 CAT CAT CGT CTG GAG AAA ACC TAC GTG GAA GAA GGA AGC TTC GTG GAA CAA CAC GAG ACG

+1 Ala Ile Ala Gln Leu Thr Thr Ile Gly Lys Pro Leu Gly Ser Leu His Glu Trp Val ***.
661 GCC ATT GCA CAA CTG ACC ACA ATT GGA AAA CCT CTG GGC TCC CTT CAT GAA TGG GTG TAG

hPtfp 601 CAC CAC CGG CTG GAG AAG ACC TAC GTG GAG GAG GGC AGC TTC GTG GAG CAC GAG ACC

hPtfp 661 GCC ATC GCC CAG CTG ACC ACC ATC GGC AAG CCT CTG GGC AGC CTG CAC GAG TGG GTG TAA

PtFP

HindIII

- +1 M V N R N V L K N T G

 1 AAG CTT GCC ACC ATG GTG AAC CGG AAC GTG CTG AAG AAC ACC GGC

 TTC GAA CGG TGG TAC CAC TTG GCC TTG CAC GAC TTC TTG TGG CCG
- L K Е Ι S K S Μ А Α ν Ε G Ι ٧ CTG AAG GAG ATC ATG AGC GCC AAG GCC AGC GTG GAG GGC ATC GTG GAC TTC CTC TAG TAC TCG CGG TTC CGG TCG CAC CTC CCG TAG CAC
- +1 N N H V F S M E G F G K G N V
 91 AAC AAC CAC GTG TTC AGC ATG GAG GGC TTC GGC AAG GGC AAC GTG
 TTG TTG GTG CAC AAG TCG TAC CTC CCG AAG CCG TTC CCG TTG CAC
- +1 L F G N Q L M Q I R V T K G G
 136 CTG TTC GGC AAC CAG CTG ATG CAG ATC CGG GTG ACC AAG GGC GGC
 GAC AAG CCG TTG GTC GAC TAC GTC TAG GCC CAC TGG TTC CCG CCG
- +1 P L Ρ F F D Ι ν Ι Α S Α F 0 Y CCT CTG CCC TTC GCC TTC GAC ATC GTG AGC ATC GCC TTC CAG TAC GGA GAC GGG AAG CGG AAG CTG TAG CAC TCG TAG CGG AAG GTC ATG
- G N T F +1 R T K Y Ρ D D Ι D Υ GGC AAC CGG ACC TTC ACC AAG TAT CCC GAC GAC ATC GCC GAC TAC CCG TTG GCC TGG AAG TGG TTC ATA GGG CTG CTG TAG CGG CTG ATG
- +1 F V Q S F P A G F F Y E R N L
 271 TTC GTG CAG AGC TTC CCT GCC GGC TTC TTC TAC GAG CGG AAC CTG
 AAG CAC GTC TCG AAG GGA CGG CCG AAG AAG ATG CTC GCC、TTG GAC
- F +1 R E D G Α I V D I R sD CGG TTC GAG GAC GGC GCC ATC GTG GAC ATC CGG AGC GAC ATC AGC GCC AAG CTC CTG CCG CGG TAG CAC CTG TAG GCC TCG CTG TAG TCG
- +1 L E D D K F H Y K V E Y R G N
 361 CTG GAG GAC GAC AAG TTC CAC TAC AAG GTG GAG TAC CGC GGC AAC
 GAC CTC CTG CTG TTC AAG GTG ATG TTC CAC CTC ATG GCG CCG TTG
- +1 G F P S N G P V M Q K A I L G 406 GGC TTC CCT AGC AAC GGC CCT GTG ATG CAG AAG GCC ATC CTG GGC CCG AAG GGA TCG TTG CCG GGA CAC TAC GTC TTC CGG TAG GAC CCG
- +1 M E P S F E V V Y M N S G V L
 451 ATG GAG CCC AGC TTC GAG GTG GTG TAC ATG AAC AGC GGC GTG CTG
 TAC CTC GGG TCG AAG CTC CAC CAC ATG TAC TTG TCG CCG CAC GAC
- +1 V G Е v D ۲. ν ¥ K L Y E S G 496 GTG GGC GAG GTG GAC CTG GTG TAC AAG CTG GAG AGC GGC AAC TAC CAC CCG CTC CAC CTG GAC CAC ATG TTC GAC CTC TCG CCG TTG ATG
 - +1 Y S C H ĸ М Т F Y R S K G G ν

- 541 TAC AGC TGC CAC ATG AAG ACC TTC TAC CGG AGC AAG GGC GGC GTG ATG TCG ACG GTG TAC TTC TGG AAG ATG GCC TCG TTC CCG CCG CAC
- +1 K E F P E Y H F I H H R L E K 586 AAG GAG TTC CCT GAG TAC CAC TTC ATC CAC CAC CGG CTG GAG AAG TTC CTC AAG GGA CTC ATG GTG AAG TAG GTG GTG GCC GAC CTC TTC
- +1 T Y V E E G S F V E Q H E T A
 631 ACC TAC GTG GAG GAG GGC AGC TTC GTG GAG CAC GAG ACC GCC
 TGG ATG CAC CTC CTC CCG TCG AAG CAC CTC GTC GTG CTC TGG CGG
- +1 I A Q L T T I G K P L G S L H
 676 ATC GCC CAG CTG ACC ACC ATC GGC AAG CCT CTG GGC AGC CTG CAC
 TAG CGG GTC GAC TGG TGG TAG CCG TTC GGA GAC CCG TCG GAC GTG

NotI

+1 E W V *
721 GAG TGG GTG TAA AGC GGC CGC
CTC ACC CAC ATT TCG CCG GCG

Figure 10 (continued)

The coding sequence (from start codon to stop codon):

atggtgaaccggaacgtgctgaagaacaccggcctgaaggagatcatgagcgcaag gccagcgtggagggcatcgtgaacaaccacgtgttcagcatggagggcttcggcaag ggcaacgtgctgttcggcaaccagctgatgcagatccgggtgaccaagggcgccct ctgcccttcgccttcgacatcgtgagcatcgccttccagtacggcaaccggaccttc accaagtatcccgacgacatcgccgactacttcgtgcagagcttccctgccggcttc ttctacgagcggaacctgcggttcgaggacggcgccatcgtggacatccggagcgac atcagcctggaggacgacaagttccactacaaggtggagtaccgcggcaacggcttc cctagcaacggccctgtgatgcagaaggccatcctgggcatggagccagcttcgag gtggtgtacatgaacagcggcgtgctggtgggcgaggtggacctggtgtacaagctg gagagcggcaactactacagctgccacatgaagaccttctaccggagcaagggcggc gtgaaggagttccctgagtaccacttcatccaccaccggctggagaagacctacgtg gaggagggcagcttcgtggagcagcacgagaccgccatcgccagctgaccaccatc

Figure 11

Figure 13

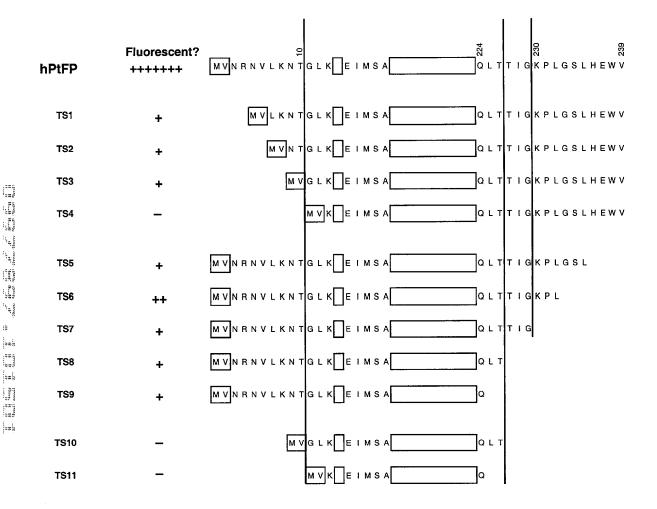
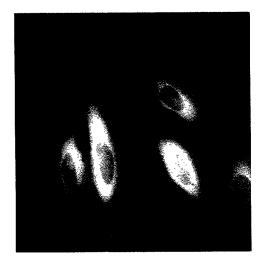
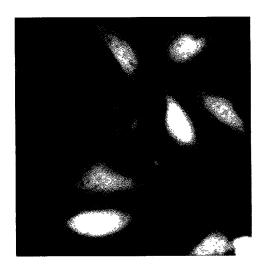


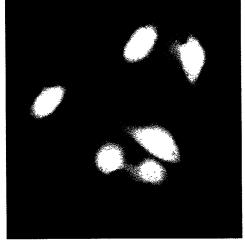
Figure 14



no treatment



Staurosporine 10 nM 6 hours



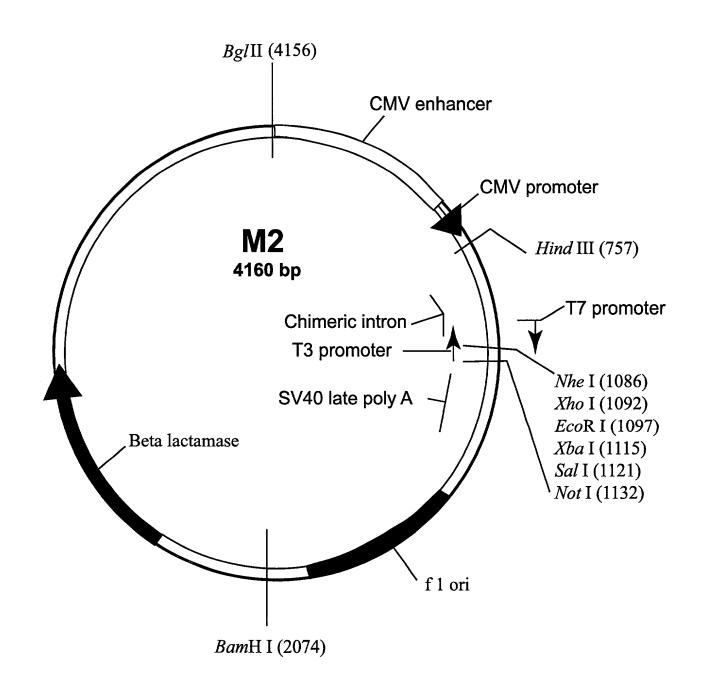
Staurosporine 1 nM 24 hours

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                        UCU S 0.18 (161556)
                                              UAU Y 0.43 (133427)
                                                                   UGU C 0.45 (108740)
  UUC F 0.55 (225633)
                        UCC S 0.22 (192616)
                                              UAC Y 0.57 (174805)
                                                                   UGC C 0.55 (134523)
  UUA L 0.07 ( 79303)
                        UCA S 0.15 (128429)
                                              UAA * 0.29 ( 8187)
                                                                   UGA * 0.50 ( 14381)
  UUG L 0.13 (135218)
                        UCG S 0.06 ( 49456)
                                              UAG * 0.21 (
                                                            5913)
                                                                   UGG W 1.00 (142435)
  CUU L 0.13 (139009)
                        CCU P 0.28 (189374)
                                              CAU H 0.41 (113684)
                                                                   CGU R 0.08 ( 51100)
CUC L 0.20 (210903)
                        CCC P 0.33 (219428)
                                              CAC H 0.59 (162826)
                                                                   CGC R 0.19 (118404)
  CUA L 0.07 ( 75667)
                        CCA P 0.27 (182506)
                                              CAA Q 0.26 (130857)
                                                                   CGA R 0.11 ( 68664)
  CUG L 0.40 (435317)
                        CCG P 0.11 ( 76684)
                                              CAG Q 0.74 (377006)
                                                                   CGG R 0.21 (126679)
AUU I 0.35 (174021)
                        ACU T 0.24 (140780)
                                              AAU N 0.46 (186915)
                                                                   AGU S 0.15 (131222)
AUC I 0.49 (240138)
                                              AAC N 0.54 (218376)
                        ACC T 0.36 (213626)
                                                                   AGC S 0.24 (211962)
📳 AUA I 0.16 ( 78463)
                        ACA T 0.28 (162837)
                                              AAA K 0.42 (262630)
                                                                   AGA R 0.20 (125600)
👪 AUG M 1.00 (244236)
                        ACG T 0.12 ( 69346)
                                              AAG K 0.58 (359627)
                                                                   AGG R 0.20 (123646)
  GUU V 0.18
                        GCU A 0.26 (202329)
             (119013)
                                              GAU D 0.46 (245435)
                                                                   GGU G 0.16 (118798)
GUC V 0.24 (160764)
                        GCC A 0.40 (310626)
                                              GAC D 0.54 (287040)
                                                                   GGC G 0.34 (250410)
  GUA V 0.11 ( 76398)
                        GCA A 0.23 (173010)
                                              GAA E 0.42 (317703)
                                                                   GGA G 0.25 (180955)
  GUG V 0.47 (317359)
                                              GAG E 0.58 (441298)
                        GCG A 0.11 ( 82647)
                                                                   GGG G 0.25 (180001)
|
|eak
```

Figure 15

0.00

Figure 16



tcaatattggccattagccatattattcattggttatatagcataaatcaatattggct attggccattgcatacgttgtatctatatcataatatgtacatttatattggctcatgt ccaatatgaccgccatgttggcattgattattgactagttattaatagtaatcaattac ggggtcattagttcatagcccatatatggagttccgcgttacataacttacggtaaatg gcccgcctggctgaccgcccaacgacccccgcccattgacgtcaataatgacgtatgtt cccatagtaacgccaatagggactttccattgacgtcaatgggtggagtatttacggta aactgcccacttggcagtacatcaagtgtatcatatgccaagtccgccccctattgacg tcaatgacggtaaatggcccgcctggcattatgcccagtacatgaccttacgggacttt cctacttggcagtacatctacgtattagtcatcgctattaccatggtgatgcggttttg gcagtacaccaatgggcgtggatagcggtttgactcacggggatttccaagtctccacc ccattgacgtcaatgggagtttgttttggcaccaaaatcaacgggactttccaaaatgt cgtaacaactgcgatcgcccgcccgttgacgcaaatgggcggtaggcgtgtacggtgg gaggtctatataagcagagctcgtttagtgaaccgtcagatcactagaagctttattgc ggtagtttatcacagttaaattgctaacgcagtcagtgcttctgacacaacagtctcga acttaagetgeagtgactetettaaggtageettgeagaagttggtegtgaggeactgg gcaggtaagtatcaaggttacaagacaggtttaaggagaccaatagaaactgggcttgt cgagacagagaagactcttgcgtttctgataggcacctattggtcttactgacatccac tttgcctttctctccacaggtgtccactcccagttcaattacagctcttaaggctagag tacttaatacgactcactataggctagcctcgagaattcacgcgtggtacctctagagt cgacccgggcggccgcttccctttagtgagggttaatgcttcgagcagacatgataaga tacattgatgagtttggacaaaccacaactagaatgcagtgaaaaaaatgctttatttg tgaaatttgtgatgctattgctttatttgtaaccattataagctgcaataaacaagtta acaacaacaattgcattcattttatgtttcaggttcagggggagatgtgggaggttttt cgtaatagcgaagaggcccgcaccgatcgcccttcccaacagttgcgcagcctgaatgg cgtgaccgctacacttgccagcgccctagcgcccgctcctttcgctttcttcccttcct $\verb|ttctcgccacg| ttcgccggctttccccgtcaagctctaaatcgggggctccctttaggg|$ ttccgatttagtgctttacggcacctcgaccccaaaaaacttgattagggtgatggttc acgtagtgggccatcgccctgatagacggtttttcgccctttgacgttggagtccacgt tetttaatagtggactettgttecaaactggaacaacactcaaccetateteggtetat tcttttgatttataagggattttgccgatttcggcctattggttaaaaaatgagctgat ttaacaaaaatttaacgcgaattttaacaaaatattaacgcttacaatttcctgatgcg gtattttctccttacgcatctgtgcggtatttcacaccgcatacgcggatctgcgcagc accatggcctgaaataacctctgaaagaggaacttggttaggtaccttctgaggcggaa agaaccaggatccgcgtatggtgcactctcagtacaatctgctctgatgccgcatagtt aagccagcccgacacccgccaacacccgctgacgcgccctgacgggcttgtctgctcc cggcatccgcttacagacaagctgtgaccgtctccgggagctgcatgtgtcagaggttt tcaccgtcatcaccgaaacgcgcgagacgaaagggcctcgtgatacgcctatttttata ggttaatgtcatgataataatggtttcttagacgtcaggtggcacttttcggggaaatg tgcgcggaacccctatttgtttatttttctaaatacattcaaatatgtatccgctcatg agacaataaccctgataaatgcttcaataatattgaaaaaggaagagtatgagtattca acatttccgtgtcgcccttattcccttttttgcggcatttttgccttcctgtttttgctc acccagaaacgctggtgaaagtaaaagatgctgaagatcagttgggtgcacgagtgggt tacatcgaactggatctcaacagcggtaagatccttgagagttttcgccccgaagaacg

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Figure 17 (continued)

Figure 18

